

Cont'd  
B3

21. (Amended) An integrated optical lightguide device comprising:  
an optical lightguide device having at an entrance side provided with a light  
source and at an exit side provided with a light detector; and  
along a direction of light propagation, providing several types of segments, each  
type of segment showing a different refractive index profile, wherein the refractive index  
profile of one or more types of activable segments depends on the value of an external  
physical parameter or chemical compound.

### RESPONSE

Claim 13 has been cancelled and rewritten as new claim 25 so that claims 14-25  
are now in the application.

The Examiner indicated that the method claims still do not contain active steps  
and therefore are still rejected under Section 112, second paragraph. It is now believed that new  
claim 25, the only independent method claim, is in a proper form containing active steps and thus  
meets the rejection.

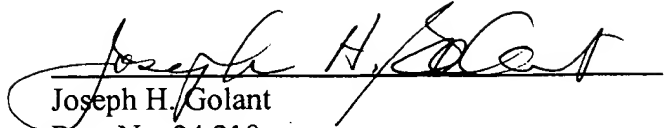
The Examiner's attention is respectfully directed to the fact that claims 21-24 are  
directed to an apparatus.

Request is made that the application proceed to search.

Should the Examiner wish to contact the undersigned to facilitate matters, she is  
invited to call at her convenience.

Dated: May 2, 2002

Respectfully submitted,

A handwritten signature in cursive script, reading "Joseph H. Golant", written over a horizontal line.

Joseph H. Golant

Reg. No. 24,210

JONES, DAY, REAVIS & POGUE

77 West Wacker Drive

Chicago, Illinois 60601-1692

(312) 269-1534



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In The Claims:

14. A method as claimed in claim 25 [13], wherein said activable light guide device comprises a light guide channel including an inclusion layer and/or a light transmitting layer of an electro-optical material, wherein, in order to obtain light modulation, segments of one type are activated by means of an electrical potential difference between two electrodes patterned in an electrically conductive intermediate layer on either side of the light transmitting channel.

15. A method as claimed in claim 25 [13], wherein use is made of an inclusion layer and/or a light transmitting layer comprising a thermo-optical material and wherein segments of one type are activated by means of an electrical current driven through an electrical conducting intermediate layer introducing a segment pattern corresponding with a predetermined pattern of segments activated by the external physical parameter or chemical compound.

16. A method as claimed in claim 25 [13], wherein the integrated optical light guide device is provided with a channel type light guide and in that the activable element comprises two types of segments, the channel widths of the two segment types being adapted to each other to obtain a maximum guided mode transmission for a predetermined value of the physical parameter or chemical compound.

17. A method as claimed in claim 25 [13], wherein the light guide device is constructed as a quasi-digital sensor showing a large number of segments in order to obtain a narrow transmission peak around a predetermined value of the physical parameter or chemical

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compound its specific value being a function of the actual value of said physical parameter or chemical compound.

19. A method as claimed in claim 25 [13], wherein the material and/or the refractive index profiles of relevant types of segments are adapted to each other to enable wavelength sensitive measurements by measuring the light emitted from different locations of the light guide device enabling determination of a power spectrum of the transmitted light.

20. A method as claimed in claim 25 [13], wherein said activable light guide device comprises two types of segments S1 and S2, wherein S1 is activated by a quantity A and S2 is activated by a quantity B different from A and wherein S1 and S2 are incorporated in a feedback circuit generating, based on a criterion of a constant transmission by the activable light guide device, the relative index profile of S2 is maintained at a value equal to that of the refractive index profile of S1 by applying a suitable value B, to correlate the quantity A with a set value of quantity B.

21. An integrated optical lightguide [light guide] device comprising:  
an optical lightguide device having at an entrance side provided with a light source and at an exit side provided with a light detector; and  
along a direction of light propagation, providing [provided with] several types of segments, each type of segment [segments] showing a different refractive index profile, wherein [whereof] the refractive index profile of one or more types of activable segments depends on the value of an external physical parameter or chemical compound[, said several types of segments being organized to carry out a method as claimed in any one of the preceding claims].